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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,806	01/02/2004	William H. Bridge JR.	50277-2358	1803

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HICKMAN PALERMO TRUONG & BECKER, LLP  
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SUITE 550  
SAN JOSE, CA 95110

EXAMINER
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FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
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2162

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/18/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/750,806

Applicant(s)

BRIDGE ET AL.

Examiner

JEAN B. FLEURANTIN

Art Unit

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

*Response to Amendment*

1. This is in response to Applicant(s) arguments submitted on 9/22/06.

The following is the current status of claims:

Claims 1-18 remain pending for examination.

*Response to Applicant' Remarks*

Applicant's arguments filed 9/22/06 have been fully considered but they are not persuasive for the following reasons, see section A (rejection maintained and repeated below) and section B (response to argument).

***Claim Rejections - 35 USC § 103***

- A. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-12 and 15-18 are rejected under 35 U.S.C.103(a) as being unpatentable over applicant' background, specification page 1, paragraph [0004] to page 9, paragraph [0028], (Applicant Admitted Prior Art) ("APA") in view of U.S., Patent 5,721,918 issued to Nilsson et al., ("Nilsson").

As per claim 1, APA discloses "a method comprising the steps of maintaining a checkpoint value that indicates which records of a plurality of records have to be processed after the failure, wherein the plurality of records indicate changes for a plurality of data blocks" (i.e., data recoverable is to write redo records into a redo log file in nonvolatile memory, since the redo records containing a description of the changes that were made by a particular transaction; see page 3, paragraph [0010]); and:

~~"determining a target checkpoint value on a desired number of data block reads that based on a~~  
user-specified value that corresponds to how much work will be required during a redo phase of recovery"

(i.e., a checkpoint operation periodically executing, by reducing number of data blocks; see page 7, paragraph [0021]); and

~~"updating the checkpoint value based on the target checkpoint value"~~ (i.e., updates reflecting in the database, in which redo records in the redo log file sequentially (ordered) processing (target checkpoint value); see page 5, paragraph [0016] and Fig. 1).

APA fails to explicitly disclose steps of reducing the recovery time after a failure. However, Nilsson discloses steps of reducing the recovery time after a failure (see Nilsson col. 8, lines 39-51). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of APA by reducing the recovery time after a failure as disclosed by Nilsson (see Nilsson col. 4, lines 26-36). Such a modification would allow the teachings of APA to provide an appropriate checkpoint time intervals (see Nilsson col. 3, line 40), thereby improving the accuracy of the method and system for controlling recovery downtime. While, APA, Nilsson fail to explicitly disclose writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on a user-specified value based on a user-specified value that corresponds to how much work will required during a redo phase of recovery. However, Lomet discloses writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on a user-specified value based on a user-specified value that corresponds to how much work will required during a redo phase of recovery (see Lomet col. 12, lines 22-27 and col. 20, lines 37-45). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of APA and Nilsson by writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on a user-specified value based on a user-specified value that corresponds to how much work will required during a redo phase of recovery as disclosed by Lomet (see Lomet col. 12, lines 22-32 and Fig. 9). Such a modification would allow the method of APA to provide minimize the information which must be stored to undo transactions in case of rashes (see Lomet col. 2, lines 49-51).

As per claim 2, APA further discloses "maintaining, in volatile memory, one or more sorted buffer queues" (i.e., buffer cache (102) containing one or more sorted buffers queues (104, 106, 108 and 110); page 4, paragraph [0013]), "wherein each sorted buffer queue includes queue entries that are inserted into said sorted buffer queue based on an index value associated with said queue entry" (i.e., buffers queues (104, 106, 108 and 110) containing data loading into (inserting into) volatile memory from data items (142, 134, 130 and 138), which are respectively data blocks (A), (B), (C) and (D) (index value); see page 4, paragraph [0013]), "wherein each queue entry reflects a change to a data block of the plurality of data blocks" (i.e., data items (142, 134, 130 and 138) in the database reflecting changes that have been recorded; see page 4, paragraphs [0014 and 1015]).

As per claim 3, APA further discloses "wherein the one or more sorted buffer queues are one or more circular sorted buffer queues" (i.e., buffer cache (102) containing one or more sorted buffers queues (104, 106, 108 and 110); page 4, paragraph [0013]), and "wherein a modulus operation is used to identify the index value associated with each circular sorted buffer queue entry when inserting a queue entry into the circular sorted buffer queue" (i.e., buffers queues (104, 106, 108 and 110) containing data loading into (inserting into) volatile memory from data items (142, 134, 130 and 138), which are respectively data blocks (A), (B), (C) and (D) (index value); see page 4, paragraph [0013]).

As per claim 6, in addition to claim 1, APA further discloses "updating the checkpoint value to equal a byte offset in a redo log associated with the queue entry in the one or more sorted buffer queues that is associated with the last recently modified buffer in any queue entry in the one or more sorted buffer queues" (i.e., checkpoint all buffers cache (queues 104, 106, 108 and 110) containing changes (updating), in which checkpoint set equal to previously stored byte offset (redo log); see page 7, paragraph [0023]).

As per claim 7, in addition to claim 10, APA further discloses "maintaining, in volatile memory, one or more sorted buffer queues" (i.e., buffer cache (102) containing one or more sorted buffers queues (104, 106, 108 and 110); page 4, paragraph [0013]), "wherein each partially sorted buffer queue includes queue entries that are inserted into said partially sorted buffer queue based on an index value associated with said queue entry" (i.e., buffers queues (104, 106, 108 and 110) containing data loading into (inserting into) volatile memory from data items (142, 134, 130 and 138), which are respectively data blocks (A), (B), (C) and (D) (index value); see page 4, paragraph [0013]), "wherein each queue entry reflects a change to a data block of the plurality of data blocks" (i.e., data items (142, 134, 130 and 138) in the database reflecting changes that have been recorded; see page 4, paragraphs [0014 and 1015]).

As per claim 8, in addition to claim 1, APA discloses "a byte offset to an identified redo log file" (i.e., byte offset which representing (identifying) redo record; see page 7, paragraph [0023]).

As per claim 9, APA discloses "a method for maintaining a checkpoint value that indicates which records of a plurality of records have to be processed after the failure, wherein the plurality of records indicate changes for a plurality of data blocks" (i.e., data recoverable is to write redo records into a redo log file in nonvolatile memory, since the redo records containing a description of the changes that were made by a particular transaction; see page 3, paragraph [0010]); and

~~"determining a maximum number of data block reads that can be performed within the required recovery time"~~ (i.e., reducing number of data blocks, a checkpoint operation performing; see page 8, paragraph [0025]) and

~~"periodically advancing the target checkpoint value based on the maximum number of data block reads that can be performed within the required recovery time"~~ (i.e., a checkpoint operation periodically executing, in order to reduce number of data blocks; see page 7, paragraph [0021]); and

APA fails to explicitly disclose controlling an amount of time that needed to recover after the occurrence of the database system failure; determining a recovery time, wherein the required recovery time indicates a maximum length of time that is to be allowed for recovering after said database system failure. However, Nilsson discloses a method of controlling an amount of time that needed to recover after the occurrence of the database system failure (see Nilsson col. 4, lines 26-36); determining a recovery time, wherein the required recovery time indicates a maximum length of time that is to be allowed for recovering after said database system failure (see Nilsson col. 3, lines 20-27). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of APA by controlling an amount of time that needed to recover after the occurrence of the database system failure; determining a recovery time, wherein the required recovery time indicates a maximum length of time that is to be allowed for recovering after said database system failure as disclosed by Nilsson (see Nilsson col. 4, lines 26-36). Such a modification would allow the method of APA to provide an appropriate checkpoint time intervals (see Nilsson col. 3, line 40), therefore, improving the accuracy of the method and system for controlling recovery downtime. While, APA, Nilsson fail to explicitly disclose writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on the maximum number of data block reads that can be performed in the required recovery time. However, Lomet discloses writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on the maximum number of data block reads that can be performed in the required recovery time (see Lomet col. 12, lines 22-27 and col. 20, lines 37-45). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of APA and Nilsson by writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on the maximum number of data block reads that can be performed in the required recovery time as disclosed by Lomet (see Lomet col. 12, lines 22-32 and Fig. 9). Such a modification would allow the method of APA to provide minimize the information which must be stored to undo transactions in case of crashes (see Lomet col. 2, lines 49-51).

As per claim 10, in addition to claim 1, APA further discloses "a computer-readable medium carrying one or more sequences of instructions, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors" (i.e., one or more processes (sequences instructions) executing on a database server; see page 2, paragraph [0007]) to perform the steps of "maintaining a checkpoint value that indicates which records of a plurality of records have to be processed after the failure, wherein the plurality of records indicate changes for a plurality of data blocks" (i.e., data recoverable is to write redo records into a redo log file in nonvolatile memory, since the redo records containing a description of the changes that were made by a particular transaction; see page 3, paragraph [0010]).

As per claim 11, in addition to claim 2, APA further discloses "execution of the one or more sequences of instructions by one or more processors causes the one or more processors to further perform" (i.e., processes executing on a database server; see paragraph [0007]).

As per claim 12, the limitations of claim 12 are similar to claim 3, therefore, the limitations of claim 12 are rejected in the analysis of claim 3, this claim is rejected on that basis.

As per claim 15, the limitations of claim 15 are similar to claim 6, therefore, the limitations of claim 15 are rejected in the analysis of claim 6, this claim is rejected on that basis.

As per claim 16, in addition to claim 7, APA further discloses "execution of the one or more sequences of instructions by one or more processors causes the one or more processors to further perform" (i.e., processes executing on a database server; see paragraph [0007]).



As per claim 17, the limitations of claim 17 are similar to claim 8, therefore, the limitations of claim 17 are rejected in the analysis of claim 8, this claim is rejected on that basis.

As per claim 18, in addition to claim 1, APA further discloses "a computer-readable medium carrying one or more sequences of instructions, wherein execution of the one or more sequences of instructions by one or more processors causes" (i.e., one or more processes executing on a database server; see page 2, paragraph [0007]) causes the one or more processors to perform the steps of:

"maintaining a checkpoint value that indicates which records of a plurality of records have to be processed after the failure, wherein the plurality of records indicate changes for a plurality of data blocks" (i.e., data recoverable is to write redo records into a redo log file in nonvolatile memory, since the redo records containing a description of the changes that were made by a particular transaction; see page 3, paragraph [0010]);

~~"determining a maximum number of data block reads that can be performed within the required recovery time"~~ (i.e., reducing number of data blocks, a checkpoint operation performing; see page 8, paragraph [0025]) and

~~"periodically advancing the target checkpoint value based on the maximum number of data block reads that can be performed within the required recovery time"~~ (i.e., a checkpoint operation periodically executing, in order to reduce number of data blocks; see page 7, paragraph [0021]); and

APA fails to explicitly disclose controlling an amount of time that needed to recover after the occurrence of the database system failure; determining a recovery time, wherein the required recovery time indicates a maximum length of time that is to be allowed for recovering after said database system failure. However, Nilsson discloses a method of controlling an amount of time that needed to recover after the occurrence of the database system failure (see Nilsson col. 4, lines 26-36); determining a recovery time, wherein the required recovery time indicates a maximum length of time that is to be allowed for recovering after said database system failure (see Nilsson col. 3, lines 20-27). It would have been

obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of APA by controlling an amount of time that needed to recover after the occurrence of the database system failure; determining a recovery time, wherein the required recovery time indicates a maximum length of time that is to be allowed for recovering after said database system failure as disclosed by Nilsson (see Nilsson col. 4, lines 26-36). Such a modification would allow the teachings of APA to provide an appropriate checkpoint time intervals (see Nilsson col. 3, line 40), thereby improving the accuracy of the method and system for controlling recovery downtime.

Claims 4-5 and 13-14 are rejected under 35 U.S.C.103(a) as being unpatentable over applicant' background, specification page 1, paragraph [0004] to page 9, paragraph [0028], (Applicant Admitted Prior Art) ("APA") in view of U.S., Patent 5,721,918 issued to Nilsson et al., ("Nilsson") as applied to claims 1-3, 6-12 and 15-18 above, and further in view of U.S., Patent 6,131,094 issued to Gord, ("Gord").

As per claims 4 and 13, in addition to claim 1, "execution of the one or more sequences of instructions by one or more processors causes the one or more processors to further perform" (i.e., processes executing on a database server; see paragraph [0007]).

APA fails to explicitly disclose maintaining a count of the queue entries in each of the one or more sorted buffer. However, Gord discloses a method for maintaining a count of the queue entries in each of the one or more sorted buffer (see Gord col. 7, lines 45-54). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of APA by maintaining a count of the queue entries in each of the one or more sorted buffer as disclosed by Gord (see Gord col. 7, lines 20-32 and Fig. 7). Such a modification would allow the method of APA to provide a computer implemented method for using multiple logs buffers (see col. 4, lines 42-44), thereby improving the accuracy of the method and system for controlling recovery downtime.

As per claims 5 and 14, in addition to claims 1 and 4, APA fails to explicitly disclose if the count of the queue entries in a particular sorted buffer queue of the one or more sorted buffer queues is greater

than target number of queue entries associated with the particular sorted buffer queue, then ~~reducing the~~ number of queue entries in the particular sorted buffer queue to the target number of queue entries associated with the particular sorted buffer queue. However, Gord discloses a method disclose if the count of the queue entries in a particular sorted buffer queue of the one or more sorted buffer queues is greater than target number of queue entries associated with the particular sorted buffer queue, then ~~reducing the number of queue entries~~ in the particular sorted buffer queue to the target number of queue entries associated with the particular sorted buffer queue (see Gord col. 7, lines 10-32). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of APA by sorting buffer queue of the one or more sorted buffer queues is greater than target number of queue entries associated with the particular sorted buffer queue, then ~~reducing the number of~~ queue entries in the particular sorted buffer queue to the target number of queue entries associated with the particular sorted buffer queue as disclosed by Gord (see Gord col. 7, lines 40-57 and Fig. 7(A-C) ). Such a modification would allow the method of APA to provide a computer implemented method for using multiple logs buffers (see col. 4, lines 42-44), therefore, improving the accuracy of the method and system for controlling recovery downtime.

B. Figure 1, as amended has been overcome the objection. Thus, the drawing(s) objection(s) has (have) been withdrawn. The submission of replacement of drawing(s), Figure 1, is (are) acknowledged.

Applicant's arguments filed on 9/22/06, page 12, paragraph 2 and page 13, paragraph 3, with respect to claims 1-18 (specifically, independent claims 1 and 9) have been fully considered but, have been found persuasive only to the extent that the prior art of record does not specifically discloses the limitations "writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on the maximum number of data block reads that can be performed in the required recovery time." However, Lomet discloses such limitations.

Applicants stated, page 10, paragraph 1, "the background of the Applicants' s specification describes how the recovery of a database system involves the expenditure of time and resources, which are considered to be precious commodities by many. Claims 1 and 9 features for reducing the amount of time and resources that are required to recover a database system. Therefore, a more efficient approach for recovering a database system is both useful and tangible, ... may be saved." It is noted that, the claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material per se.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

In response to applicant's argument, page 11, paragraphs 2 and 3, " each of the pending claims recites least one element that is not disclosed, taught, or suggested, either individually or in combination." The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to

one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, APA fails to explicitly disclose steps of reducing the recovery time after a failure. However, Nilsson discloses steps of reducing the recovery time after a failure (see Nilsson col. 8, lines 39-51). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of APA by reducing the recovery time after a failure as disclosed by Nilsson (see Nilsson col. 4, lines 26-36). Such a modification would allow the teachings of APA to provide an appropriate checkpoint time intervals (see Nilsson col. 3, line 40), thereby improving the accuracy of the method and system for controlling recovery downtime. While, APA, Nilsson fail to explicitly disclose writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on a user-specified value based on a user-specified value that corresponds to how much work will required during a redo phase of recovery. However, Lomet discloses writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on a user-specified value based on a user-specified value that corresponds to how much work will required during a redo phase of recovery (see Lomet col: 12, lines 22-27 and col. 20, lines 37-45). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of APA and Nilsson by writing changes from volatile memory to nonvolatile memory to advance the checkpoint value based on a user-specified value based on a user-specified value that corresponds to how much work will required during a redo phase of recovery as disclosed by Lomet (see Lomet col. 12, lines 22-32 and Fig. 9). Such a modification would allow the method of APA to provide minimize the information which must be stored to undo transactions in case of rashes (see Lomet col. 2, lines 49-51).

MPEP 2111: During patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification" Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In *re Prater*, 162 USPQ 541,550-51 (CCPA 1969). The court found that applicant was advocating ... the impermissible importation of subject matter from the specification into the claim. See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution,

to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the "PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definition or otherwise that may be afforded by the written description contained in application's specification.").

The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. In re Cortright, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999).

For the above reasons, it is believed that the last Office Action was proper.

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

#### CONTACT INFORMATION

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is 571 – 272-4035. The examiner can normally be reached on 7:05 to 4:35.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571 – 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

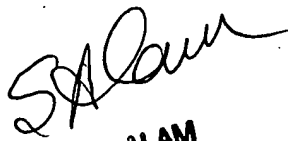
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean Bolte Fleurantin

Patent Examiner

Technology Center 2100

November 28, 2006

  
**SHAHID ALAM**  
**PRIMARY EXAMINER**